

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave.St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-021980**Date Inspected:** 15-Mar-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

CWI Inspector: Mr. Cui Zheng Hua

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Bay 14

Segments 13E and 14E

This QA Inspector observed ZPMC personnel performed heat straightening of segment 13AE deck plate DP3072. ZPMC had two workers using gas torches to heat this plate and the overhead crane appeared to be applying an upward pressure where it was attached to the edge of this deck plate in two locations. This QA Inspector asked ABF QC Inspector Mr. Liang Biao if engineering had approved this heat straightening. One of the workers showed this QA Inspector a heat straightening document that had Chinese writing and this document appeared to indicate the purpose of this heat straightening was to correct a 15mm deformation along the length of top deck plate DP3072. This QA Inspector requested Mr. Liang Biao to have the responsible Certified Welding Inspector come to where this activity was taking place. ABF QC Inspector Mr. Liang Biao phoned ABF CWI Mr. Cui Zheng Hua who directed that this heat straightening be stopped. ZPMC disconnected the overhead crane from the deck plate and turned off their torches. ABF CWI Mr. Cui Zheng Hua later arrived at OBG segment 13AE and he

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## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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informed this QA Inspector that ZPMC will obtain Caltrans Engineering approval prior to performing additional heat straightening of this deck plate. See the photographs below for additional information.

This QA Inspector observed ZPMC welder Mr. Yang Yunfeng, stencil 215553 used shielded metal arc welding procedure specification WPS-B-P-2212-TC-U4B-FCM-1 to make OBG segment 14E weld SEG3019BB-171. This QA Inspector observed a welding current of approximately 240 amps, the base materials appear to have been preheated with electric heating elements and Mr. Yang Yunfeng appeared to be certified to make this weld. Items observed on this date appeared to generally comply with applicable contract documents.

This QA Inspector observed ZPMC welder Mr. Wang Zhengbin, stencil 216086 used shielded metal arc welding procedure WPS-B-P-2212-TC-U4B-FCM-1 to make OBG segment 14E weld SEG3019BB-105. This QA Inspector observed a welding current of approximately 240 amps the base materials were preheated with an electrical heater and Mr. Wang Zhengbin appeared to be certified to make these welds. Items observed on this date appeared to generally comply with applicable contract documents.

Segments 13E/W and 14E/W

This QA Inspector performed random document review of “Team China request for information (TC-RFI)” document #TC-RFI-0055R0, R1, R2 and R3 and the following observations were made:

RFI-055R0 item 1 addresses OBG segment 14 East and 14 West top anchorage plates. This QA Inspector performed random visual inspections and observed both of these plates are not installed and ZPMC does not appear to have completed coping of the stiffener plates as addressed by this RFI.

RFI-055R0 item 1 addresses OBG segment 14 East vertical anchorage bearing stiffener plates. The RFI does not require field modifications and no QA inspections are needed at this time.

RFI-055R1 item 1 addresses OBG segment 14 East and 14 West top anchorage plates. ZPMC does not appear to have completed installation of the brace angles at PP125 as addressed by this RFI.

RFI-055R1 item 2 addresses acceptability of oversize holes in OBG segment 14 East and 14 West top anchorage plates. ZPMC does not appear to have completed installation of the holes as addressed by this RFI.

RFI-055R1 item 3 addresses OBG segment 14 East and 14 West drop in stiffeners. Additional information is needed prior to QA inspections of the drop in stiffeners.

RFI-055R1 items 4 and 5 addresses OBG segment 14 East and 14 West anchor plate cope holes. Other Caltrans QA Inspectors have already completed these inspections and no additional QA inspections are required at this time.

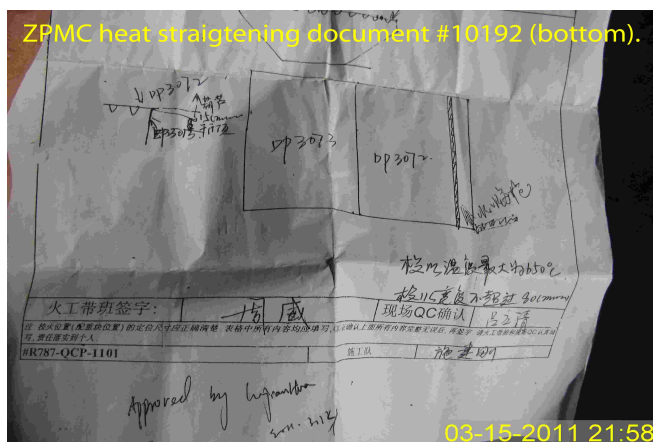
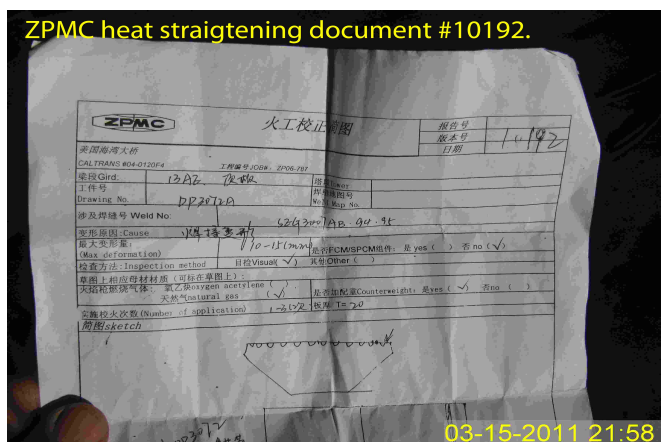
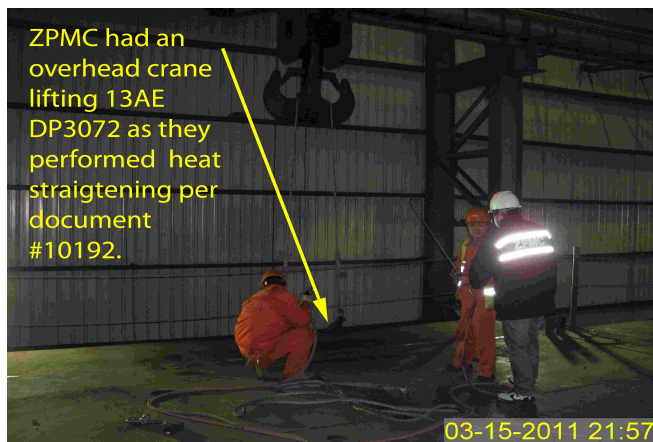
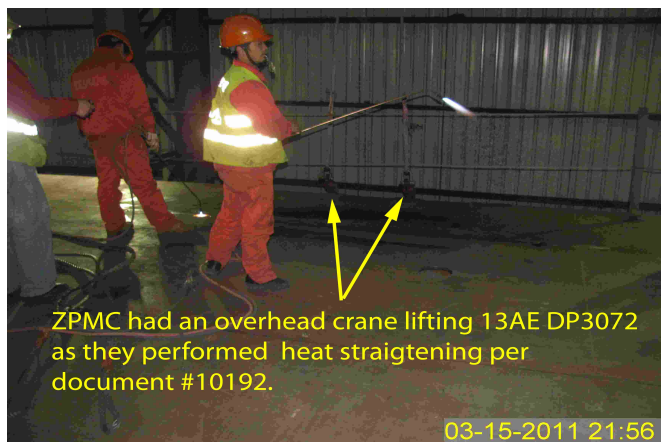
RFI-055R1 items 6 addresses OBG segment 14 East and 14 West stiffeners to deck plate PJP welds for type 12 stiffeners. Information concerning locations of these stiffeners are required prior to QA inspections of the drop in stiffeners.

# WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

RFI-055R2 addresses OBG segment 14 East and 14 West anchor plate mill to bear sandwich plates. The RFI does not require field modifications and no QA inspections are required at this time.

RFI-055R3 addresses OBG segment 14 East and 14 West stiffener assemblies SA3347C and SA334D weld details. This RFI accepts the field installations and no additional QA inspections are required at this time.



## Summary of Conversations:

See Above.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact James Devey +8615000026784, who represents the Office of Structural Materials for your project.

Inspected By: Dawson,Paul

Quality Assurance Inspector

Reviewed By: Riley,Ken

QA Reviewer